

ABSTRACT

An add/drop module is disclosed including a first circulator having first through third ports that are connected to an external optical fiber, the first circulator outputting an optical signal, input to the first port, to the second port and outputting an optical signal, input to the second port, to the third port, an optical multiplexer/demultiplexer having a multiplexing port connected to the second port of the first circulator, and adapted to provide a passage for the optical signal, and a plurality of demultiplexing ports respectively adapted to provide passages for demultiplexed channels associated therewith, and a plurality of add/drop units. Each add/drop unit includes a second circulator having first through third ports, a second port thereof being connected to an associated one of the demultiplexing ports, and an optical switch having first through fourth ports. The first port being connected to the third port of the second circulator, and at the third port to the first port of the second circulator, the first port of the optical switch being selectively connected with or the third port of the optical switch to establish a path for a channel to be passed or with the fourth port of the optical switch to establish a path for a channel to be dropped, the second port of the optical switch being selectively connected with the third port of the optical switch to establish a path for a channel to be added.